APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/425,102	10/22/1999	WILFRED G. RUSSELL	3382-53553	9072

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EXAMINER
LAO, SUE X

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/425,102	RUSSELL ET AL.
	Examiner	Art Unit	
	Sue Lao	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _08 November 2004_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-61 and 69-129_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-61, 69-129_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _total 7_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.　　　Claims 1-61, 69-129 are pending. This action is in response to the amendment filed 11/8/2004. Applicant has added claims 69-129.

2.　　　35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.　　　Claim 1-61, 69-129 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The language of independent claims 1-61, 69-129 raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a useful, concrete and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

Independent claims 1, 41, 69 and 109 do not appear to require any computer hardware to implement the claimed invention. These claims appear to define the metes and bounds of an invention comprised of software alone. There is no support (i.e., explicitly claimed computer hardware) in the body of the claims. The system of claim 5 appears to be a system comprised entirely of software. Software alone, without a machine, is incapable of transforming any physical subject matter by chemical, electrical, or mechanical acts. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. In re Schrader, 22 F.3d 290 at 294-95, 30 USPQ2d 1455 at 1458-59 (Fed. Cir. 1994). Transformation of data by a machine constitutes statutory subject matter if the claimed invention as a whole accomplishes a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d 1368, 1373, 47 USPQ2d 1596 at 1600-02 (Fed. Cir. 1998). MPEP 2106. State Street required transformation of data by a machine before it applied the "useful, concrete, and tangible test." However, State Street does

not hold that a "useful, concrete and tangible result" alone, without a machine, is sufficient for statutory subject matter. State Street, 149 F.3d at 1373, 47 USPQ2d at 1601.

Claims 1-61, 69-129 are rejected under 35 U.S.C. 101 because the claimed invention, appearing to be comprised of software alone without claiming associated computer hardware required for execution, is not supported by either a specific and substantial asserted utility (i.e., transformation of data) or a well established utility (i.e., a practical application).

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-61, 69-129 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-61, 69-129 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are computer hardware necessary to execute the claimed software and render the invention operative.

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1, 3, 37, 38, 69, 71, 105, 106 are rejected under 35 U.S.C. 103(a) as
being unpatentable over Freund et al (U S Pat. 5,893,912) in view of SunSoft
("Transaction Service Specification", OMG TC document 93.11.12).

As to claim 1, Freund teaches in a computer having object-execution system
code, a method of managing execution of software components (target objects) in an
object execution environment (middleware), the method comprising:

supporting an object execution environment (middleware including context
manager, object services) from a system-provided run-time executive (operating
system) (col. 3, lines 54-65; fig. 1B); and

responsive to a request (request) from an immediate client (thread) to the
run-time executive (col. 3, line 54 – col. 4, line 14),

creating (context manager) a component context object (context on the thread,
context coordinator) having stored therein a set of properties intrinsic (context
information) to the requested software component instance and relating to managing
execution (associate) of the requested software component instance within the object
execution environment by system-provided code (col. 3, line 54 – col. 4, line 14).

Freund does not teach the request includes creating a software component
instance in the object execution environment, nor the steps of supplying to the
immediate client a reference to the requested software component instance, and
maintaining by the run-time executive an implicit association of the component context
object to the requested software component instance.

SunSoft teaches context management, including a request (client requests) to
create a software component instance (create a transaction) in the object execution

environment, supplying to the immediate client a reference to the requested software component instance (return transaction object), and maintaining by a run-time executive an implicit association of a component context object to a requested software component instance (support implicit transaction context). Page 12, 1st-4th and 8th para.s; page 13, pages 20-22; page 25. Therefore, it would have been obvious to maintain by the run-time executive an implicit association of the component context object to the requested software component instance in Freund. One of ordinary skill in the would have been motivated to combine the teachings of Freund and SunSoft because this would have reduced ORB overhead in Freund (ORB 504) due to needless transmission of transaction context (page 27, section 3.4)

As to claim 3, Freund teaches maintaining the component context object in existence and continuing the implicit association of the component context object to the requested software component instance until a final release of the requested software component instance (end association, col. 4, lines 5-27).

As to claims 37, 38, Freund as modified teaches (SunSoft) on request of a software component instance to a get context programming interface of the run-time executive, providing a reference for use in accessing the component context object to the software component instance (transaction factory, page 12).

As to claims 69, 71, 105, 106, note discussion of claims 1, 3, 37, 38, respectively.

8.   Claims 2, 4, 41-44, 70, 72, 109-112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freund et al in view of SunSoft as applied to claims 1, 69 and further in view of CORBA (CORBA 2.0).

As to claims 2, 4, CORBA teaches context management, including maintaining the component context object in existence and continuing the implicit association of the component context object to the requested software component instance during a lifetime of the requested software component instance (delete, page 4-16). CORBA teaches the properties are set at creation of the component context object and maintained immutable for the lifetime of the requested software component instance (until delete). Therefore, it would have been obvious to maintain and continue by the

run-time executive an implicit association during a lifetime / immutable in Freund. One of ordinary skill in the would have been motivated to combine the teachings of Freund and CORBA because this would have provided persistent contexts (page 4-13).

As to claim 41, note discussions of claims 1-2.

As to claim 42, note discussion of claim 4.

As to claim 43, Freund as modified teaches responsive to a request of the requested software component instance to return an interface pointer of an interface of the component context object (SunSoft, client interface page 18-19, section 2.3.7).

As to claim 44, Freund as modified teaches an interface of the component context object exposed to the requested software component instance, the interface having a component creation method member for invocation by the requested software . component instance to cause creation of a descendant software component instance in the object execution environment; and program code operating responsive to the invocation of the component creation method member by the requested software component instance to create a second component context object to accompany the descendant software component instance and having context properties stored in the second component context object that are inherited from the context properties of the component context object accompanying the requested software component instance (Freund, hierarchy of context coordinators corresponding to respective target objects, col. 10, lines 1-27; col. 8, lines 17-26).

As to claims 70, 72, 109-112, note discussion of claims 2, 4, 41-44, respectively.

9.   Claims 5-15, 18-21, 33-35, 73-83, 86-89, 101-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freund et al in view of SunSoft as applied to claims 1, 69 and further in view of DellaFera et al (U S Pat. 5,404,523).

As to claims 5, 6, Freund as modified teaches the software component instance is one of a chain of software components whose creation was initiated by a base client that runs outside the object execution environment / a set of ancestor/descendent-related software components, each of which being created in turn at request of its respective immediate ancestor software component of the set

commencing with an original ancestor software component originally created at request of a base client (SunSoft, multiple levels of transactional objects, page 12, 4th para.), but does not teach the set of properties comprises a client identifier indicative of the base client.

DellaFera teaches context management, wherein the set of properties comprises a client identifier (end-user system identification) indicative of the base client (col. 3, line 41 – col. 4, line 12). Therefore, it would have been obvious to include client identification in Freund. One of ordinary skill in the would have been motivated to combine the teachings of Freund and DellaFera because this would have allowed down-liner server to process in proper context (col. 4, lines 13-19).

As to claims 7, 8, 18, Freund as modified teaches (DellaFera) the client identifier indicates a base client resident outside of the object execution environment (DCE RPC), the set of related software components all are engaged in a collective task for the base client, and wherein the set of properties comprises an activity identifier indicative of the set of related software components (information of task group, col. 3, line 41 – col. 4, line 12). Note discussion of claim 5 for a motivation to combine.

As to claims 9, 19, Freund as modified teaches (DellaFera) managing concurrency of execution within software components in the object execution environment that have the activity identifier stored as an intrinsic property in their respective context object (context information including task group, col. 3, line 41 – col. 4, line 12). Note discussion of claim 5 for a motivation to combine.

As to claims 10, 11, 12, 20, 21, Freund as modified teaches (DellaFera) the set of properties comprises a transaction reference indicative of a transaction encompassing data processing work of at least some of the related software components including the requested software component instance (information of task group), managing data processing work of software components in the object execution environment that have the transaction reference stored as an intrinsic property in their respective component context object on a transactional basis (transaction context, col. 3, line 41 – col. 4, line 31). Note discussion of claim 5 for a motivation to combine.

As to claims 13-15, 33-35, Freund teaches a second component context object is associated with the immediate ancestor software component for the requested software component instance, setting the properties in the component context object of the requested software component instance based on those in the second component context object (class hierarchy of context manager), inheriting the properties in the component context object of the requested software component instance from those in the second component context object (class hierarchy of context manager), setting at least some of the properties in the component context object of the requested software component instance to match those in the second component context object (inheritance of the class hierarchy) (col. 4, line 15 – col. 5, line 5).

As to claims 73-83, 86-89, 101-103, note discussion of claims 5-15, 18-21, 33-35, respectively.

10.   Claims 56-61, 124-129 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freund et al in view of SunSoft and CORBA as applied to claims 41, 109 and further in view of DellaFara.

As to claims 56-58, 60, note discussion of claims 5, 8, 9, 10, respectively.

As to claims 59, 61, Freund as modified teaches limiting concurrent execution in the set of software components to a single logical thread of execution (Freund, thread; DellaFera, chain of RPCs, fig. 2), transactionally manage the data processing work of the collection of participating software components (DellaFara, transaction processing). Note discussion of claim 5 for a motivation to combine.

As to claims 124-129, note discussion of claims 56-61, respectively.

11.   Claims 16, 17, 22-32, 36, 39, 40, 45-55, 84, 85, 90-100, 104, 107, 108, 113-123 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 101 and 112, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12.   Applicant's arguments filed 11/8/2004 have been considered but are moot in view of the new ground(s) of rejection.

13.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Lao whose telephone number is (571) 272-3764. A voice mail service is also available at this number. The examiner's supervisor, SPE Meng-Ai An, can be reached on (571) 272 3756. The examiner can normally be reached on Monday - Friday, from 9AM to 5PM. The fax phone number for the organization where this application or proceeding is assigned is (703) 872 9306.

       Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

       Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 26, 2005

SUE LAO
PRIMARY EXAMINER